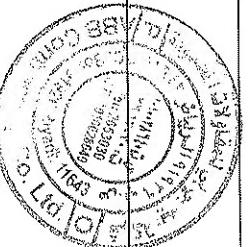


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SL NO.	SEC COMMENTS	ABB'S RESPONSE	SEC DECISION/CONCLUSION
<u>01</u>	<u>General</u>	Confirmed as AEC will integrate the AMR system for this project with the following approved SEC suppliers: <ul style="list-style-type: none"> • MCB – Schneider. • FT Switches – ABB (FT-1 Style: 129A514G01). • Terminal Blocks – Phoenix Or Weidmuller. • Panels – Al Fanar, MEMF or any other SEC approved suppliers. • PQM – SEL (SEL-734P) • Bistable Relay – ABB (Part Number: RXMVB2) • ADDAD – AEC. 	
1.2	Notes and legends table shall be updated.	The notes mentioned on Schematic Drawings are complete for that Schematic, also there is a Legend table provided separately which covers all the components in AMR system provided by us.	
<u>02</u>	<u>ACDB & DCDB Single Line Diagram (Section - 4, Drawing # CD-320752, Rev. 00, Sheet 01-02/02)</u>	Complied. Please Refer to the revised drawings.	
2.1	127VAC/220VAC (Sheet 01/02): The referred 'ACDB' drawing numbers are missing. Manufacturer/Contractor shall incorporate the missing drawing numbers on the drawing.	Complied. Please Refer to the revised drawings.	
2.2	125VDC (Sheet # 02/02): The referred 'DCDB' drawing no. is missing. Manufacturer/ Contractor shall incorporate the missing drawing no. in the drawing.	Complied. Please Refer to the revised drawings.	

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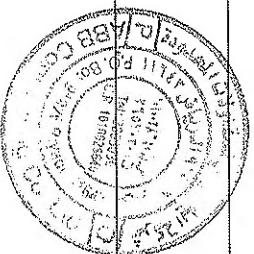
SL NO.	SEC COMMENTS	ABB'S RESPONSE	SEC DECISION/CONCLUSION
03	<p><u>Communication System Diagram (Section - 5, Drawing # CD-320885, Rev. 00, Sheet 01/101);</u></p> <p>The submitted diagram is a general & typical communication system block diagram. It is not showing the location and number of the LAN switch and communication panel. Contractor shall prepare the detailed communication system schematics diagram showing all the interface points.</p>	<p>Please note that all the Telecom & SAS are still in design stage & the required interface will be done during the site activity.</p>	
04	<p><u>Schematics Diagram, Metering Panel With 4 Revenue Meters Without Relays (Section - 6, Drawing # CD-320883, Rev. 00, Sheets 01-11/11)</u></p> <p><u>127VAC & Grounding Connections inside Panel (sheet 02/11):</u></p> <p>Missing drawing numbers of the 'ACDB & Next Panel' shall be incorporated on the drawings.</p>	<p>Complied. Please Refer to the revised drawings.</p>	
4.2	<p><u>127VAC & Grounding Connections inside Panel (sheet 02/11):</u></p> <p>Missing drawing numbers of the 'ACDB & Next Panel' shall be incorporated on the drawings.</p>	<p>Complied. Please Refer to the revised drawings.</p>	
4.3	<p><u>VT Connections Inside Panel, Telephone Line Connections (Sheet 04/11):</u></p> <p>Voltage level & drawing no. of interface voltage transformer terminal box/terminal block is missing. It shall be incorporating on the drawing.</p>	<p>Complied. Please Refer to the revised drawings.</p>	
4.4	<p><u>Revenue Meter Connection inside Panel (Sheets 05-08/11):</u></p> <p>The missing drawing no. of the CT MK box shall be</p>	<p>Complied. Please Refer to the revised drawings.</p>	

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SL NO.	SEC COMMENTS	ABB'S RESPONSE	SEC DECISION/CONCLUSION
	incorporated on the drawings.		
<u>4.5</u>	<u>Communication Connections inside the panels (Sheets 09-10/11):</u> Missing interface drawing numbers shall be indicated.	Please note that all the Telecom & SAS are still in design stage & the required interface will be done during the site activity.	
<u>4.6</u>	DC Voltage Connections inside the panels (Sheet 1111)	Complied. Please Refer to the revised drawings.	
a	The same comment as given above for item # 2.2.	Complied. Please Refer to the revised drawings.	
b	The same comment as given above for item # 4.5.	Please refer to ABB response in item no. 4.5.	
<u>05</u>	<u>GA & LA Drawings Metering Panel, 4 M, 3 P4W ADDED without Change Over Contacts (Section - 7, Drawing # CD-320884, Rev. 00, Sheets 01-04/04):</u>		
5.1	Manufacturer shall confirm that the general arrangement of the panels i.e. dimensions, terminal blocks, wirings and ferruling are in total compliance with 31-TMSS-01, 31- TMSS-06 and from National Grid SA approved Manufacturer.	All dimensions, terminal blocks, wirings and ferruling are as per the submitted clause by clause compliance statement for 31-TMSS-01.	
5.2	Manufacturer shall confirm that all the meter panels are suitable to accommodate maximum of six (06) no. of meters.	Confirmed. However, the DCU panel to accommodate DCU, 1PQ meter and 1 Revenue meter as per NG-SA Standard/ Specification.	
5.3	The given list of panel apparatuses shall be considered as the minimum and any additional material required at the site as per SOW and National Grid SA requirements shall be provided by the manufacturer without additional cost. It shall be confirmed by the manufacturer.	Confirmed for AMR SOW only.	



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SL NO.	SEC COMMENTS	ABB'S RESPONSE	SEC DECISION/CONCLUSION	
			Contract Number:	11131114/00
<u>06</u>	<u>Schematics Diagram of DCU Panel With PQ Meter With Relay + 1 RM Without Relay</u> <u>(Section - 8, Drawing # CD-320881, Rev. 00, Sheets 01-17/17):</u>			
<u>6.1</u>	<u>127VAC & TEL Connections inside the Panel (sheet 03/17):</u>			
	a	The same comment as given above for item # 4.1.	Complied. Please Refer to the revised drawings.	
	b	The same comment as given for item # 4.5.	Please refer to ABB response in item no. 4.5.	
<u>6.2</u>	<u>220V AC and TEL Connections inside the Panel (sheet 04/17):</u>		Complied. Please Refer to the revised drawings.	
<u>6.3</u>	<u>DCU, PC Communication Panel Connection Inside the Panel (Sheet 05/17):</u>	The same comment as given above for item # 4.1. The same comment as given above for item # 4.5.	Please refer to ABB response in item no. 4.5.	
<u>6.4</u>	<u>125VDC Connections Inside the Panels (Sheet 06/17)</u>			
	a	The same comment as given above for item # 4.5.	Please refer to ABB response in item no. 4.5.	
	b	Drawing no. and contact no. of the field contacts FQ1 and FQ2 shall be incorporated.	Complied. Please Refer to the revised drawings.	
<u>6.5</u>	<u>V/T Connections Inside Panels (Sheet 07/17):</u>			
	a	The same comment as given above for item # 4.3.	Complied. Please Refer to the revised drawings.	
	b	The same comment as given above for item # 4.5.	Please refer to ABB response in item no. 4.5.	
<u>6.6</u>	<u>Relay For PO Meter (Sheet 08/17):</u>	The same comment as given above for item # 6.4 (b).	Complied. Please Refer to the revised drawings.	
<u>6.7</u>	<u>PO Meter Connections Inside Panels (Sheet 09/17)</u>			

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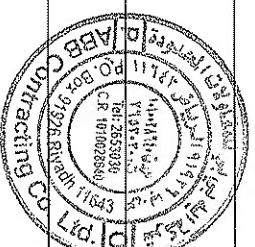
SL NO.	SEC COMMENTS	ABB'S RESPONSE	SEC DECISION/CONCLUSION
a	'PQ I' shall be corrected as 'PQ', since this is the only PQ meter which is going to be installed in the substation. Moreover, Abbreviations & Legends (Section # 1) shall also be updated.	Please, note AEC is supplying to NG-SA a standard AMR DCU system in Design, Materials where the same was submitted to NG-SA for all AMR systems supplied by the AEC company in the previous projects. NG-SA is requested to accept the same & remove this comment.	
b	The same comment as given above for item # 4.4.	Complied. Please Refer to the revised drawings.	
6.8	<u>Revenue Meter Connections Inside Panel (Sheet 10/17):</u> The same comment as give above for item # 4.4.	Complied. Please Refer to the revised drawings.	
07	<u>GA & LA Drawings of DCU Panel, IPO With Relay And 1 RM Without Relay.: 3P4W ADDAD (Section - 9, Drawing # CD-320882, Sheets 01-04/04)</u>		
7.1	The same comment as given above for item # 5.1.	All dimensions, terminal blocks, wirings and ferruling are as per the submitted clause by clause compliance statement for 31-TMSS-01.	
7.2	The same comment as given above for item # 5.3.	Confirmed for AMR SOW only.	
8.1	<u>Data Schedule for SEC/National Grid – SA Specification 40-TMSS-03, Rev. 0</u>	Noted.	
8.1	Contractor's reply 'Not Comply', for the data as prescribed under this item, is not acceptable. All the information as prescribed under this item for CTs shall be indicated in the data schedule by the main Manufacturer of the Medium Voltage Switchgear.	Noted. Please note that the mentioned clause in 40-TMSS-03, Rev. 0 is referring to Additional CT, where there is no additional CT will be utilized in AMR system which will be connected directly to metering CTs Switchgear. ABB is confirming that the AMR System will be connected directly to metering CTs in the switchgear with accuracy class	

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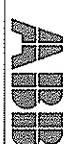
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Project Title:	Construction of New 132/13.8kV, 2 nd Industrial City in Rivadh Area.	Contract Number:	1113114/00
Substation Application:	2 ND INDUSTRIAL CITY/S # 8162	Job Order No.:	
SEC Ref.:	13/8778/303011	ABB Ref.:	FP-00007-E-0052.R1
SEC Ref Date:	20/04/2013	ABB Ref. Date:	25.03.2013

SL NO.	SEC COMMENTS	ABB'S RESPONSE	SEC DECISION/CONCLUSION
		0.2. NG-SA is requested to accept the same & remove this comment.	
09	<u>Clause by Clause Compliance to SEC/National Grid - SA Specification 40-TMSS-03, Rev. 0</u>	Confirmed.	
9.1	<u>Clause # 4.1.29</u> Contractor's reply 'Not Applicable' for this clause is not acceptable. Contractor shall confirm that the CTs being used for AMR System are with accuracy class 0.2.	Complied. Please refer to the attached clause by clause compliance to National Grid SA Specification 01-TMSS-01, Rev. 01.	
10	<u>Clause by Clause Compliance to SEC/National Grid S8 Specification 01-TMSS-01, Rev. 0</u> Contractor/Manufacturer has submitted the clause by clause compliance to National Grid SA Specification 01-TMSS-01, Rev. 0, which is not applicable. As per PTS (page 46/61), Specification 01-TMSS-01, Rev. 01 is applicable for this project which shall be submitted for our review and approval.	Complied. Please refer to the attached clause by clause compliance to National Grid SA Specification 01-TMSS-01, Rev. 01.	
11	<u>Missing Documents</u> The following missing documents shall be provided for our review and approval:	Noted. The Control Room Layout shall be submitted separately for NG-SA review / approval.	
11.1	National Grid SA approved sub-station layout showing the locations of the Meters and DCU panels.	Noted.	
11.2	Power & control cable schedule in a separate submittal.	Complied. Please refer to the attached SLD.	
11.3	Revenue & PQ Meter logic / RMS & PQ Meter Single line diagram showing the CT & VT accuracy classes,		

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		burdens and connections to the meters.		

